

# **Micromanipulators Market By Type (Hydraulic, Electric, Manual) and By Application (Embryonic stem cell transfer, Intra-cytoplasmic sperm injection (ICSI), Pronuclear zygote injection, Embryo reconstruction, Microsurgical, Biopsy, Industrial Micromanipulation, microelectronics, Flat screens, packaged parts and probing functions, drug discovery) - Global Opportunity Analysis and Industry Forecast, 2014 - 2020**

<https://marketpublishers.com/r/W242B0E5408EN.html>

Date: November 2015

Pages: 123

Price: US\$ 4,432.00 (Single User License)

ID: W242B0E5408EN

## **Abstracts**

Micromanipulator is a device, which is used to perform intricate procedures or manipulate minute specimens using a microscope. Micromanipulators are generally used along with a microscope equipped with an input joystick, a mechanism to reduce the area of movement. Micromanipulators cater to a wide variety of applications ranging from cell micromanipulation to industrial micromanipulation, embracing semiconductors and electronic industries, among others. Different types of micromanipulators are used for a wide range of applications, which depends on the precision and control required at the micro levels. Intracytoplasmic sperm injection (ICSI) is the most common application of cell micromanipulation techniques in humans. Rising incidence of infertility cases across the globe is the major factor boosting the adoption of micromanipulators for obtaining rapid results in IVF-ICSI procedures. The world micromanipulators market is estimated to be \$40 million in 2014 and is expected to grow at a CAGR of 25.8% from 2015 to 2020.

The world micromanipulators market is driven by increasing male infertility, growing adoption of IVF technique, growing semiconductor and electronics industries in the developing economies and technological advancements. In addition, high-resolution

capability of micromanipulators has opened up new avenues for research and development activities in the fields of neurology and cell biology. This is expected to drive the market growth in future. However, the high cost associated with sophisticated micromanipulators systems is likely to impede the market growth. Micromanipulators exhibit a wide range of applications in semiconductors and electronics industry, which include wafer probing, analytical probing stations and testing wafers for semiconductor parameters. They are also used to correctly orient the probe into pads for injecting test vectors in semiconductors and electronics industries. “The Micromanipulator Company” is the leading company that provides micromanipulators for semiconductor and microelectronics industries. Some of the probing stations provided by the company, includes P300J, P300A, 4060 and 450PM, which incorporate micromanipulators. The world micromanipulators market is segmented based on types, applications and geography. The two major application segments include cell micromanipulation and industrial micromanipulation. Cell micromanipulation is further segmented into embryonic stem cell transfer, intra-cytoplasmic sperm injection (ICSI), pronuclear zygote injection, embryo reconstruction, micro-surgical applications and biopsy applications. ICSI is the highest revenue-generating segment in the cell micromanipulation application market, owing to its specificity and ability to assist fertilization by placing a single sperm directly inside the egg using micromanipulator. The segment of other micromanipulation application, includes academic research and drug discovery and development, where micromanipulators are used for various microsurgical procedures or electrophysiological work, among others. For instance, the PathStar micromanipulator developed by Scientifica Ltd. is a micromanipulator with extremely low electrical noise with versatile modular design and user friendly controls, which offer a wide range of applications in many laboratories for microinjection, electrophysiological and other requirements. Industrial micromanipulation market is further segmented into semiconductors & microelectronics, flat screens and others. Semiconductors & microelectronics segment constitutes the highest market share in the industrial micromanipulation market. In the semiconductors & microelectronics industry, micromanipulators have a wide range of applications, such as probing systems, position microelectrodes, optical device probing and positioning test probes on small or medium-scale integrated circuits and hybrid devices. The world micromanipulators market by type is categorized into hydraulic, electric and manual micromanipulators. Among these, electric micromanipulators generated the highest revenue throughout the analysis period. However, manual micromanipulators segment leads the market in terms of volume, owing to the largest units sold during the analysis period. Based on geography, the micromanipulators market is segmented into North America, Europe, Asia Pacific and LAMEA. North America would continue to dominate the market until 2020, on account of intense research activities, high

awareness among the consumers for the adoption of micromanipulators and heavy investment in the research field. However, Asia Pacific would be the fastest growing market, registering a CAGR of 28.5% during 2015 – 2020.

The key companies operating in the world micromanipulators market, include Narishige Co. Ltd., Research Instruments Ltd., Eppendorf AG, Sutter Instruments, The Micromanipulator Company, Sensapex, Inc., Luigs and Neumann, Scientifica, Ltd. and Siskiyou Corporation, among others. These companies offer micromanipulation technology across all the micromanipulation application sectors.

## **KEY BENEFITS:**

This report provides an extensive analysis of the current and emerging market trends and dynamics in the world micromanipulators market.

The micromanipulators market scenario has been comprehensively analyzed on the basis of key geographical regions.

The report provides a detailed analysis of the current market and estimations during 2014–2020, which would enable the stakeholders to capitalize on the prevailing market opportunities in terms of both value and volume.

The report includes the value chain and player positioning frameworks to help in understanding the competitive environment across various geographies.

A comprehensive analysis of the market scenario in terms of applications, types, and geography helps in identifying the prevailing opportunities in the world micromanipulator market.

The key market players operating in the market have been profiled in the report, and their strategies have been thoroughly analyzed to understand the competitive outlook of the market.

## **KEY MARKET SEGMENTS:**

World micromanipulation market is segmented into application, type and geography.  
Market - By Application

Cell Micromanipulation

Embryonic stem cell transfer

Intra-cytoplasmic sperm injection (ICSI)

Pronuclear zygote injection

Embryo reconstruction

Microsurgical application

Biopsy application

Industrial Micromanipulation

Semiconductors & microelectronics

Flat screens

Others (packaged parts and probing functions)

Others (Academic research, drug discovery & development)

## Market - By Type

Hydraulic Micromanipulators

Electric Micromanipulators

Manual Micromanipulators

## Market - By Geography

North America

North America market by type

Hydraulic Micromanipulators

Electric Micromanipulators

Manual Micromanipulators

North America market by Application

Cell Micromanipulation

Industrial Micromanipulation

Others Micromanipulation

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Europe market by type

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Asia Pacific market by type

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